Instruction manual

Installing the DigiPro3
DigiPro3 Software

3.0.0.0

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Appendix: EC- Declaration Of Conformity

1 Introduction

Dear Customer,

Thank you for purchasing our digital slit lamp DigiPro3.
Please read the user manual carefully before using the slit lamp user software.
Keep this user manual safely stored for future use.
If you have any further questions, please contact our customer service department.

Meaning of the symbols in the operating instructions

Caution! Please observe safety instructions with this symbol to prevent danger or damage to property.

Important! Indicates particularly important information to maintain the function of the device/system or to extend its service life.

Note! Indicates information for correct use so that errors may be avoided.

This publication may not be copied or transferred without prior written agreement from bon Optic. bon Optic reserves the right to make changes in the interest of technical development. These user manual are not subject to updating.

2 Important information

Manufacturer : bon Optic Vertriebsgesellschaft mbH · Stellmacherstr. 14 · D-23556 Lübeck

2.1 Product information

Description : DigiPro3 (camera & beam splitter) und EyeImage² (software)

2.2 Application and classification

2.2.1 Application (in accordance with requirements)

The digital camera with integrated beam splitter is supplementary equipment for the bon slit lamps SL-75 and SL-85 enabling the user to take digital images and video clips during stereomicroscopic examinations of the eye.
With the accompanying software, the images of a patient can be analyzed and saved in archive files to evaluate the pathogenesis later on.

2.2.2 Classification

The DigiPro3 including its software is a Class 1 non-invasive, active medical device in accordance with the classification regulations of Directive 93/42/EWG on medical devices (MDD).

2.3 Liability

All devices are manufactured following the current state of the art and approved technical safety rules, and they are checked according to strict quality criteria.
bon Optic accepts responsibility for safety, reliability, and performance of the components, only if

- mounting, modification and maintenance were performed by personnel authorised by bon Optic.
- power supply of the installation site complies with national laws.
- the device is operated following the user manual's instructions.

Any manufacturer liability is excluded if equipment is mounted, modified, or overhauled by non-authorised personnel, or if the device is not used as described under 2.2.

2.4 Scope of delivery

1 x DigiPro3 (camera with integrated beam splitter)

1 x CD (software EyeImage²)

1 x connecting cable (control unit)

1 x FireWire connecting cable

1 x optical fibre cable (only together with slit lamp SL-75)

1 x film for left/right eye recognition

1 x DigiPro3 user manual

3 Description of the device

DigiPro3 is a complete system including slit lamp, digital camera and software. The accompanying software enables you to display and edit images or videos. In order to operate the slit lamp, a PC or laptop is needed (which you may purchase from Optic).

The integrated high-end camera chip has been specially designed for ophthalmologic applications with an optimal image definition and excellent contrast. Thanks to the modern FireWire interface, thus image date will be rapidly transferred to the PC enabling you to see full-screen live images with a high resolution.

Further features of the DigiPro3:

- Simple installation
- One-hand operation with shutter release on the joystick
- Automatic recognition of left/right eye
- No release delay
- Live image without delay (<= 0.1 sec.)
- Live images with up to 1280 x 960 pixels (11 images/second)
- Video sequences with up to 800 x 600 pixels
- Individual images with up to 1392 x 1040 pixels.

DigiPro3 is suited to take high-quality images of the reticuloendothelium and the fundus of the eye.

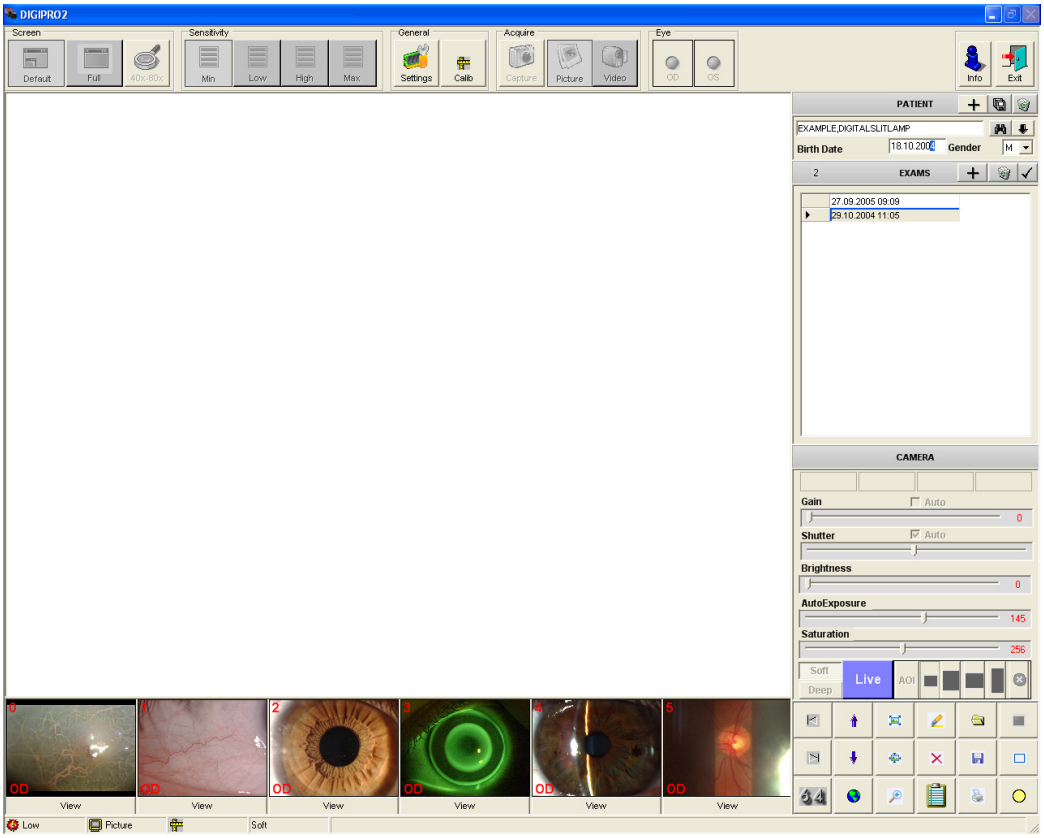
4 EyeImage² for DigiPro3 software

4.1 Starting the software

EyeImage² is a software enabling the user to take images and video sequences with the digital slit lamp DigiPro3 of bon Optic.
Ensure that the camera is connected properly.

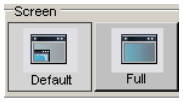
Start the software by pressing the icon on your Desktop
or select:
Start → All programs → bon Optic → DigiPro3 → DigiPro3

The main display appears:



4.2 The menu

4.2.1 Screen control

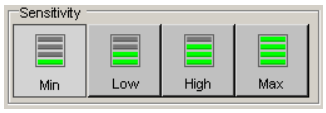


For video sequences, the complete screen (full-screen) or just a screen section (default) may be selected.

4.2.2 Zoom 40x-80x

For video sequences in the full-screen mode, the image can be zoomed to (40x-80x).

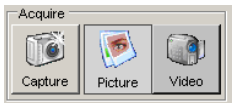
4.2.3 Sensitivity



Four sensitivity levels can be chosen for video sequences.

- Min (recommended for all slit lamp magnifications).
- Medium
- High
- Max (recommended for very dark eyes and 40-fold slit lamp magnification).

4.2.4 Recording/Taking images



Full screen	:Taking an image or start/stop for video sequences
Image	:Mode for taking images
Video	:Mode for video sequences

Alternatively, you may also use the joystick button to take images or to start and stop video recording.

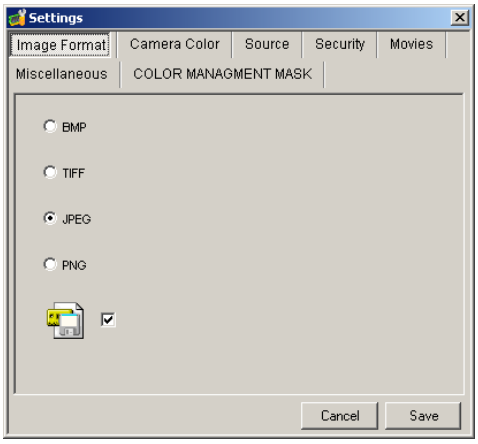
4.2.5 L/R switching

If the L/R eye detection is activated in the settings, the slit lamp will automatically recognise which eye is to be measured. If this function is deactivated, the eye to be measured can be specified manually.

4.3 General settings

Click the *Settings* button to change device settings.

4.3.1 Image format

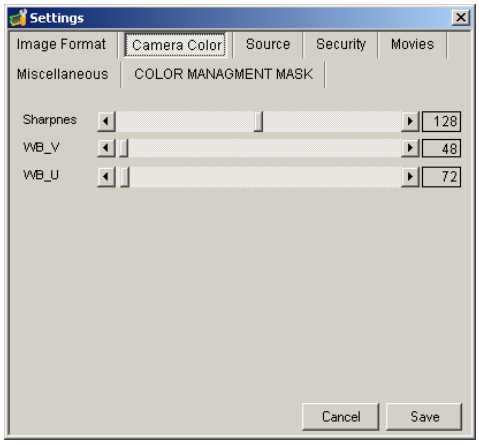


After clicking *Image Format*, the format of the images to be saved can be selected. All common formats are available.

Image format	approx. storage space
BMP	4.68 MB
TIF	2.6 MB
JPEG	77 KB
PNG	2.0 MB

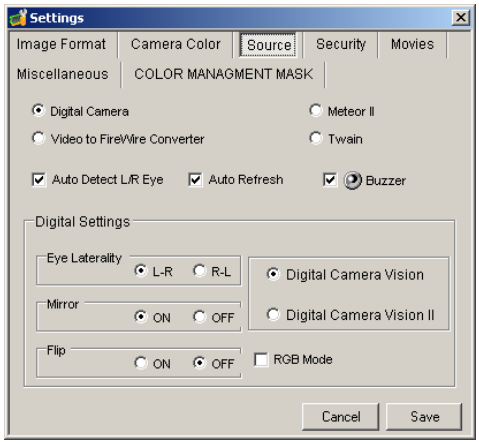
= Automatic image filing
If this function is deactivated, you must confirm image filing.

4.3.2 Colours



White balance of the digital camera. In general, no settings have to be made.

4.3.3 Source



Images and video sequences may be recorded using both analogue and digital image sources. When using

a) a digital camera (FireWire), select → Digital camera

b) an analogue camera, select

- (FireWire) → Video to FireWire Converter
- with Meteor II video grabbing card → Meteor II
- with standard video card → Twain

When choosing *Video to FireWire Converter*, please select

a) COMP1, COMP2 or S-VHS
b) the image format
c) using the joystick.

After activating *Auto Refresh*, the recorded image will immediately appear in the overview (see main screen mask).

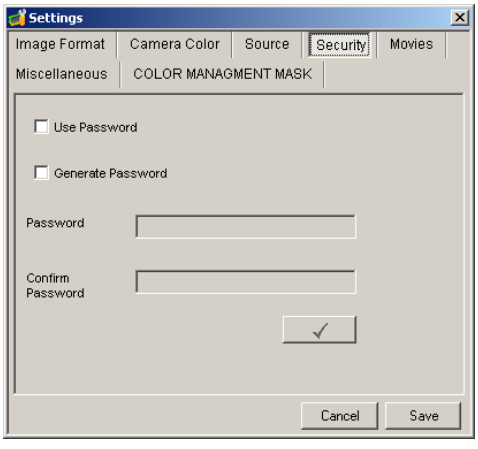
After activating *Auto Detect L/R Eye*, the software will immediately recognize if the left or right eye has been photographed. This will be displayed in the main screen mask by an L or an R.
With the *Eye Laterality* button, you can decide whether, as a default setting, the measurement shall start with the left or right eye.

In addition, you may mirror or rotate the photographed image (horizontal tilting).

Buzzer = Activation of the audible signal. A precondition for this is a sound card.

RGB Mode= Output of the camera images in RGB (7.5 fps) instead of YUV.

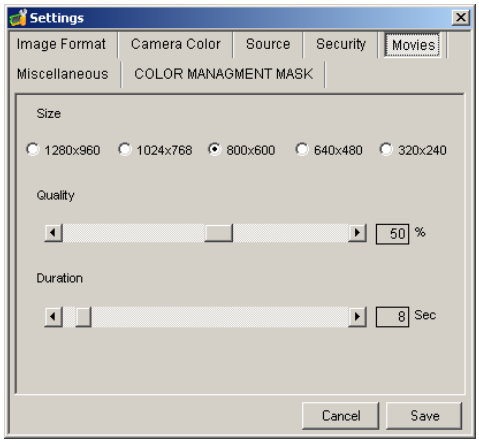
4.3.4 Safety



You have the option to protect the application with a password. To do so, select *Use Password* and *Generate Password*. You are now prompted to enter a password.

Confirm your entry by clicking ✓.

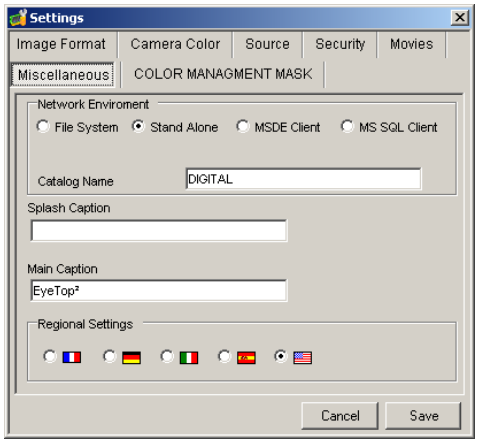
4.3.5 Movies (Video clips)



In the *Movies* tab, you can determine the image size and image quality for your video sequences.

The recording time will determine the maximum duration (0-171 seconds) of the video sequence.

4.3.6 Miscellaneous



In this field, the settings for the network environment can be selected.

- ***Stand Alone*** should be selected if the database is not stored on a server.

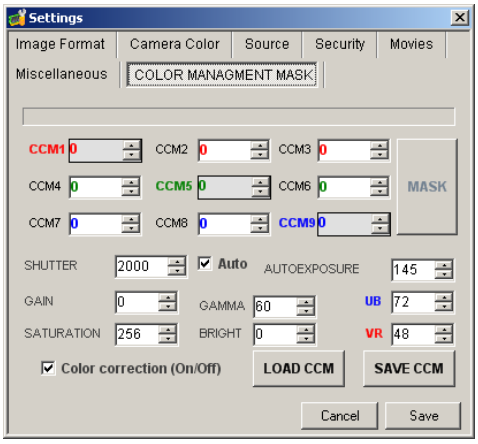
- ***MSDE Client*** should be selected if the network software options are to be used.

- ***MS SQL Client*** should be selected if a “Microsoft SQL Client” is being used.

In the *DB Server Name* field, the “NETBIOS Name” or the IP address of the server should be entered.

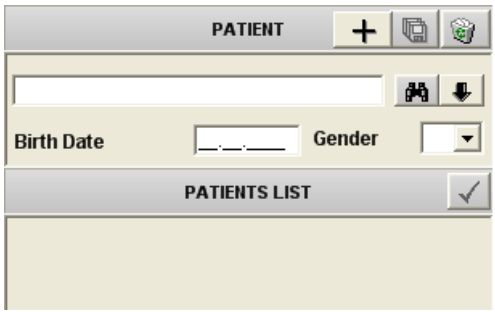
You can choose the language under *Regional Settings*. The changes will only become effective after the software restart.

4.3.7 Colour Management Mask



Normally, no settings have to be made in the colour management of the camera.

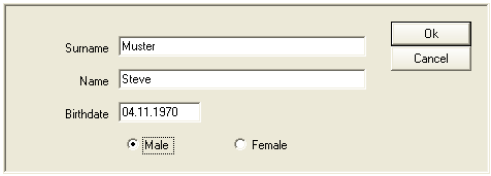
4.4 Administration of patient data



You will find the patient data administration in the mains screen mask.

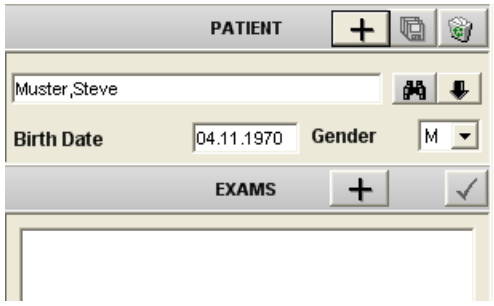
4.4.1 Adding a patient

With + button you can add a new patient.



Enter the corresponding patient data and confirm by pressing *OK.*

4.4.2 Changing/deleteing patient data



You can directly change the patient data in the patient display.

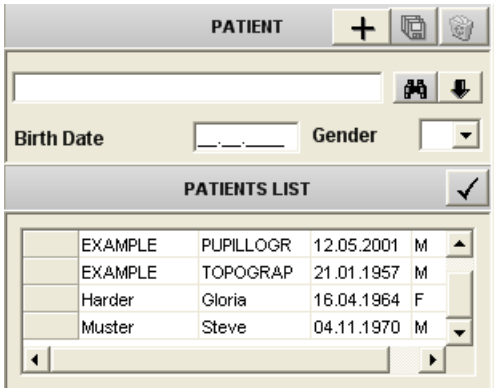
Pressing will save the changes.

Pressing will delete the patient from the memory.

4.4.3 Finding a patient

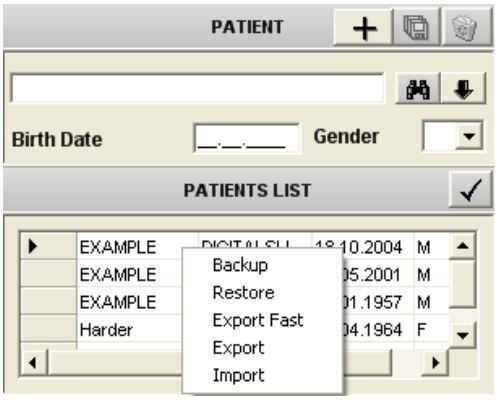
By pressing you can select a patient from the patient list. To do this, enter the complete name or the initial in the name field.
The option (M or F) in the *gender* field serves as a filter function. The search result will be displayed in the patient list.

4.4.4 Opening the patient list



By clicking the patient list with all patient records will be opened.

4.4.5 Backing up/restoring/exporting/importing of patient data



Click the patient list with a right mouse click to call up one of the following tasks.

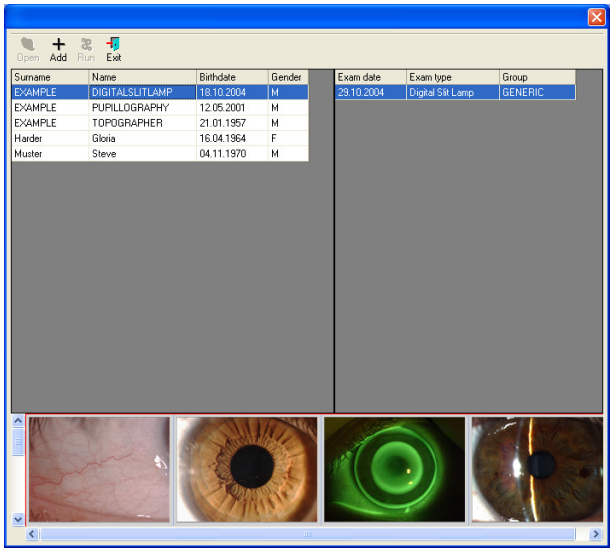
Back-up:
will create a back-up file in your patient data base. Select the desired memory location and choose a file name for the back-up file. Confirm by pressing the *Save* button. It can take several minutes to create a back-up file.

Restore:
will restore a back-up file. Open the back-up data base from the respective directory. To restore a data base can take several minutes.

The RESTORE function will overwrite all currently available patient data.

Fast Export:
exports the current patient [file] with all examinations into a compressed zip file.
The program will automatically choose the file name (name of patient), but the file name can also be changed manually.

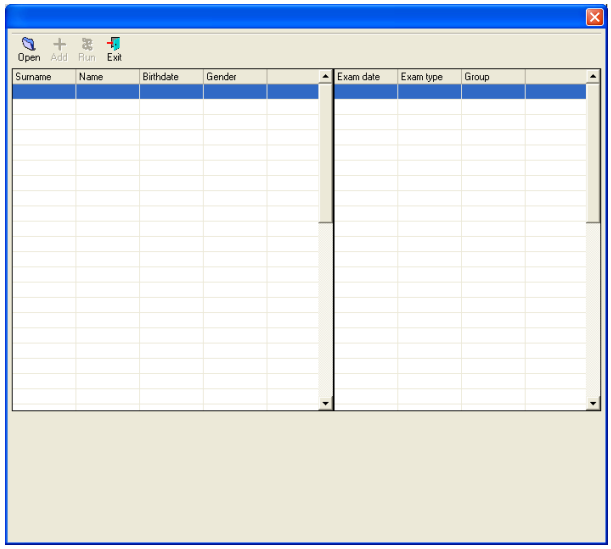
Export:
exports a selection of examinations into a compressed zip file.



Select the desired patient from the left menu field and the examination to be recorded from the right menu field.
Multiple selection is possible. Click + to accept the current selection. Repeat until you have transferred all examinations to be recorded.

Press to save your selection.

Import:
adds a compressed zip file with examination data to your data base.



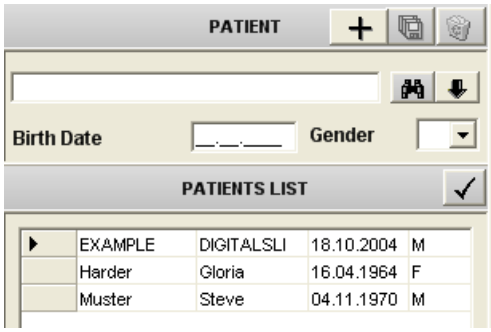
Click on Open to open a zip file with patient data.
The individual examinations of the file will appear in a list.
Select the examinations to be imported.
Multiple selection is possible. Click + to accept the current selection

Press to start the data import.

If an examination is already contained in the data base, you can upgrade it after an overwrite warning.

4.5 Administration of examiniations

4.5.1 Opening/creating/deleting of examinations



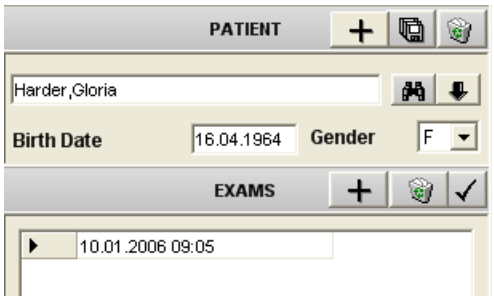
First select the patient whose examinations you would like to administer by

a double click on ▸

or

select the patient and confirm by clicking on ✓.

The list of examinations will open.

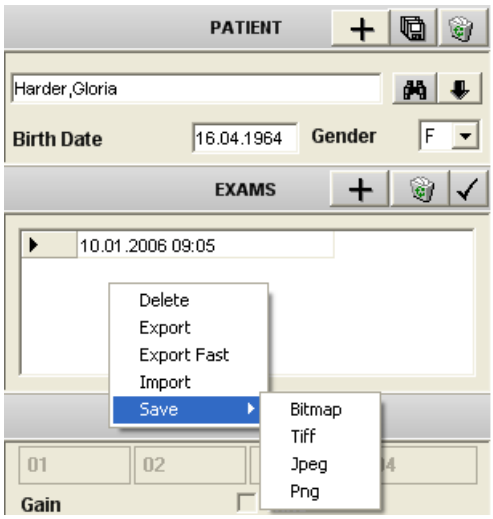


Select the desired examination to bring it up. Any available images will be shown in the preview, provided the *Auto Refresh* function has been activated under settings.

To create a new examination, confirm by clicking on +. Each new examination will be given a date and time stamp.

Press 🗑 in order to delete an examination.

4.5.2 Sichern/Wiederherstellen/Export/Import von Untersuchungen



Click the patient list with a right mouse click to call up one of the following tasks:
For detailed explanations → (also see section 4.4.5)

Save:
With this command all images and video sequences of the selected examination are saved in a defined directory. Four image formats are available.

4.6 Camera settings

4.6.1 General information

In the main display you can change the following camera settings: gain, shutter and brightness. If the camera is in the “Auto” mode, it will automatically select the correct gain and shutter.

With the buttons *Soft* and *Deep*, the colour rendition can be regulated for various environmental requirements.
The setting *Deep*, for example, combined with a high slit lamp magnification will result in stronger colours.

AutoExposure = Exposure time

4.6.2 Saving and reviewing a camera setting

The user can save four different camera settings.
For this purpose, there are four memory locations (01-04 standard name) available.

Procedure:

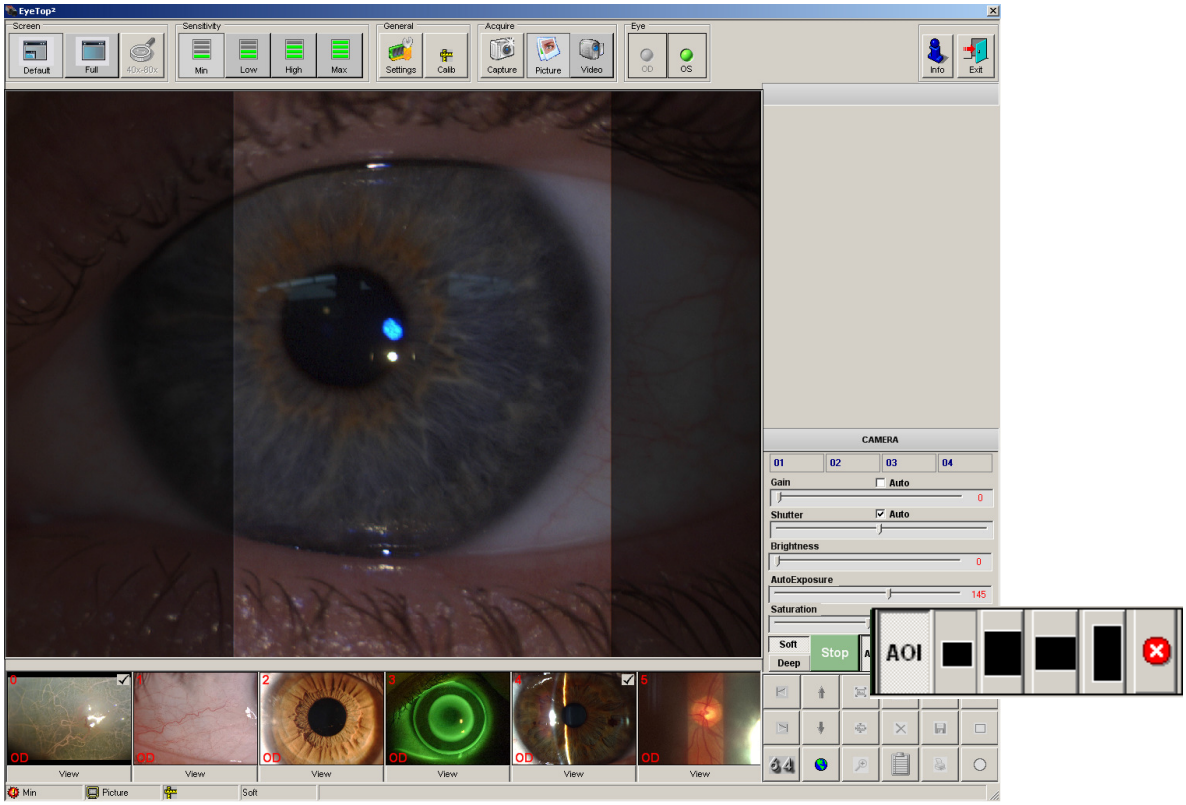
1. Go to the live mode by clicking the *Live* button.

2. Perform the desired settings for gain, shutter etc.

3. Activate one of the four memory locations with a right mouse click and enter a name for the configuration. Confirm your selection with *OK.*

To call up a stored camera setting, first go to the live mode, and then select the desired setting via the memory locations.

4.6.3 Camera image section



Using the AOI (Area of Interest) function, you can accentuate a defined section in the live image in order to be able to view this part of the image more clearly.

1. Click the *AOI* button to activate this function.
2. Select one of the four fixed window sizes for the image section.
3. Click with the mouse on that section of the image, which you want to view more closely.

Repeat step 2 or 3 to select another window size or to accentuate another image section.

4.6.4 Administrating images from the examination

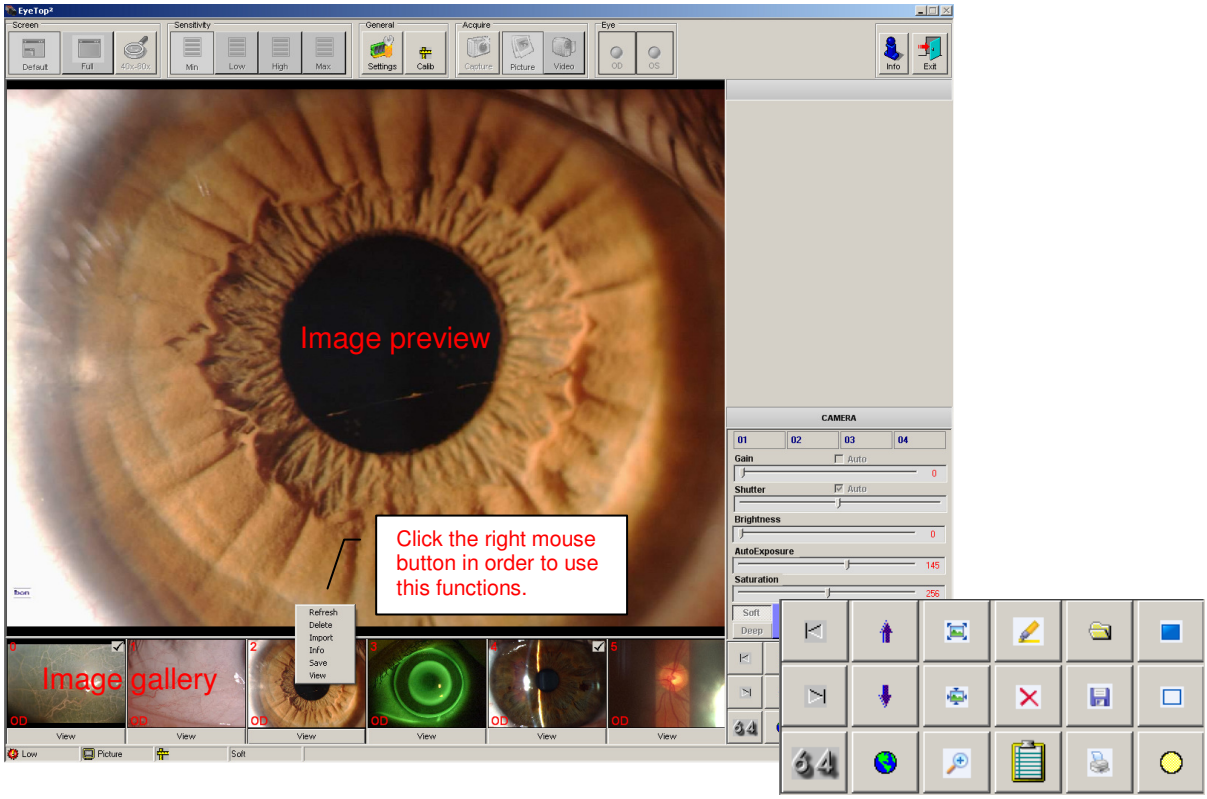


Image gallery

Shows the first stored image.

Shows the last stored image.

Previous image series

Next image series

Switchover partial preview/complete preview

Click the *Display* button to open the image in the image viewer (also see section 5.6.1) or click on the image to have it displayed in the image preview.

Image preview

Update the view (images)

Allows the entry of information for the relevant image in the image preview.

By clicking these buttons OD OS, you can define whether the information relates to the left or to the right eye.

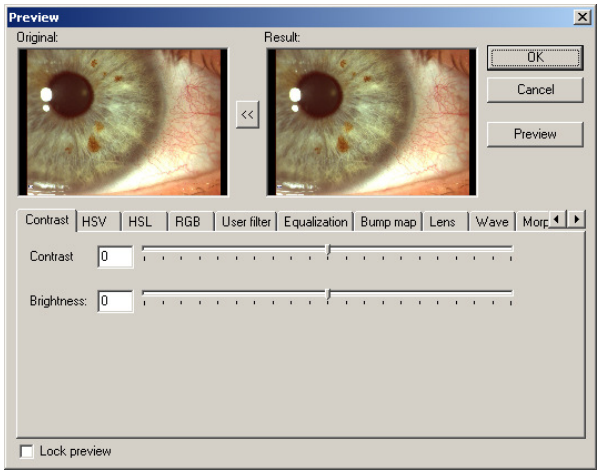
Save your entries with .

Shows the image in its original size.

Magnification on/off

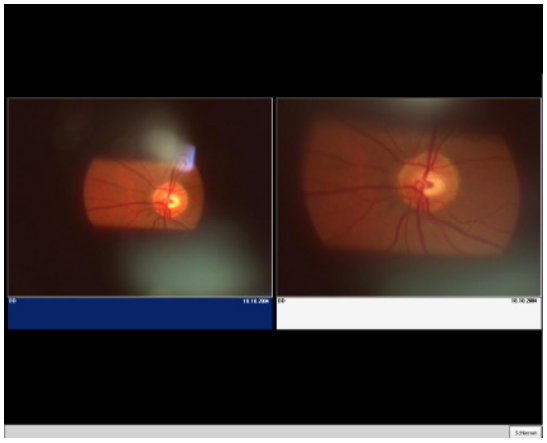
Magnifying the image: Use the mouse to drag a window into the image preview to have this section displayed with magnification.

Opens the image processing application



Clicking will reset the changes made in the image processing application provided that the image has not been saved as copy . This means that the original image will always be preserved!

Comparing images:



You can compare up to 6 images in one overview.

To open the overview

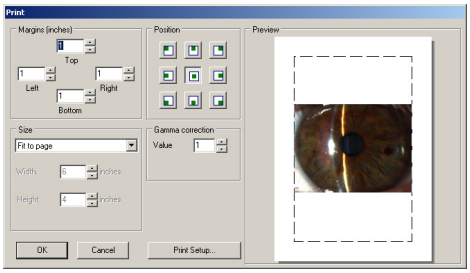
To reset all marked images

To mark/reset the selected image (Add a checkmark)

To open the image…

To save the image…

To print the image…



4.7 Recording of images and video sequences

Press the *Live* button to activate the camera on the slit lamp. When you start the programme for the first time, the system will initialise the recognised camera. Confirm with *OK.*

To take images, click on

and to record video sequences click on

.

The recording of images and video sequences can be started or stopped by pressing

or by pressing the joystick button on the slit lamp.

If the L/R eye detection is activated in the settings, the slit lamp will automatically recognize which eye is to be measured. If this function has been deactivated, the eye to be measured can be selected manually.

The video recording stops automatically after the video recording time, selected under settings, has elapsed. But you can also interrupt recording before the set time.

Click

to leave the live mode of the camera.

If you have not selected a patient (examination) before, the images will be irretrievably lost.

The recorded images or video clips will be shown in the preview provided that the *Auto Refresh* function has been activated under settings.

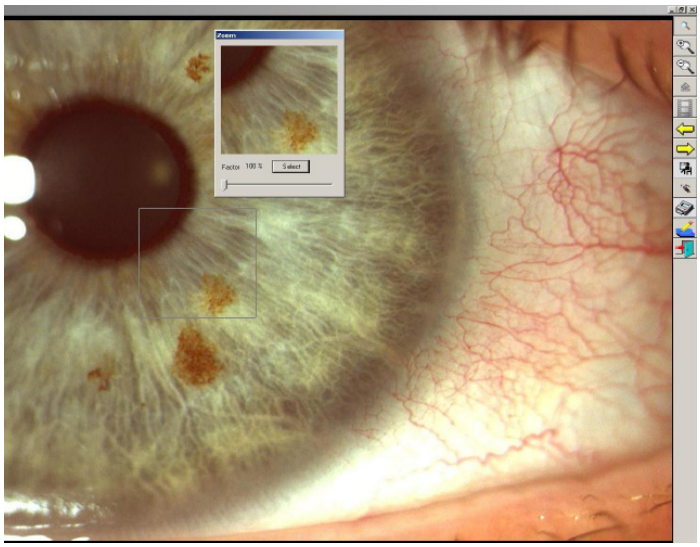
Even before the recording has started you can choose a calibration for the image by clicking

. These parameters will be saved together with the image.

4.8 The graphics module

4.8.1 The image viewer

Opening of the image viewer via the image gallery: *Display* button or right mouse button in the image → Display



The figure shows an image section that can be magnified up to 800%.

On the right edge of the image is a menu bar with the following functions:

Zoom in details ----------

Magnify ----------

Reduce ----------

View a video sequence ----------

Cut an image from a sequence ----------

Previous image from preview ----------

Next image from preview ----------

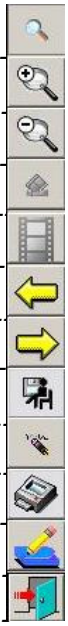
Export image ----------

Delete image ----------

Print current image ----------

Call up calibration, image editing and drawing ----------

Exit image viewer ----------



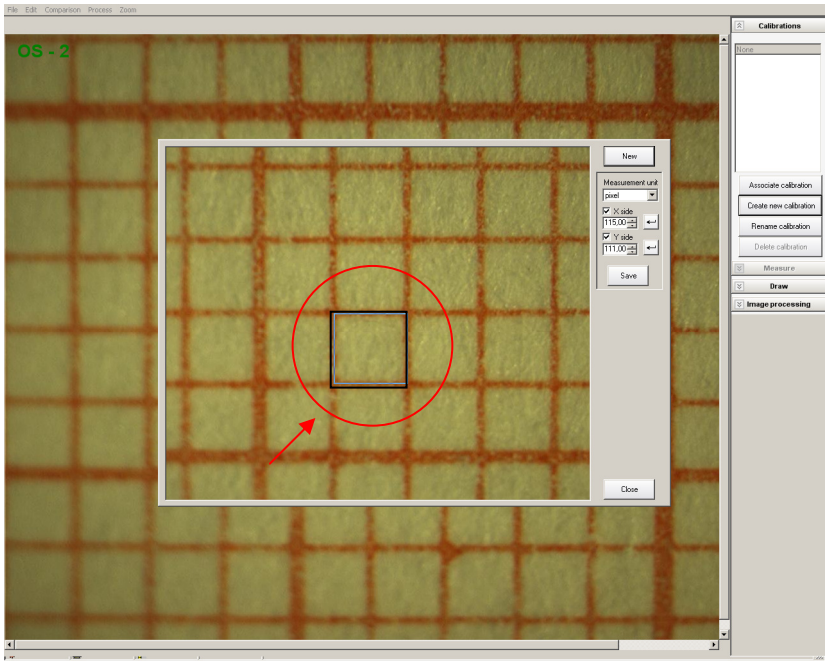
4.8.2 Calibration

Before you will be able to measure the images precisely, it will be necessary to make one or several calibrations for different magnifications.

We recommend to use graph paper for calibration. For this purpose, attach the graph paper to the adjusting bar of the slit lamp and take an image with the desired magnification.

Open the recorded image in the image viewer and change to the calibration mode by clicking .

Press *Create new calibration* → *New* to display the following image:



Position and open the measuring frame by dragging until the size is sufficient and numerable.

Select the correct measuring unit (µm, mm or pixels)

The depicted example shows an image with 16-fold magnification on the slit lamp and a 1-mm measurement size.

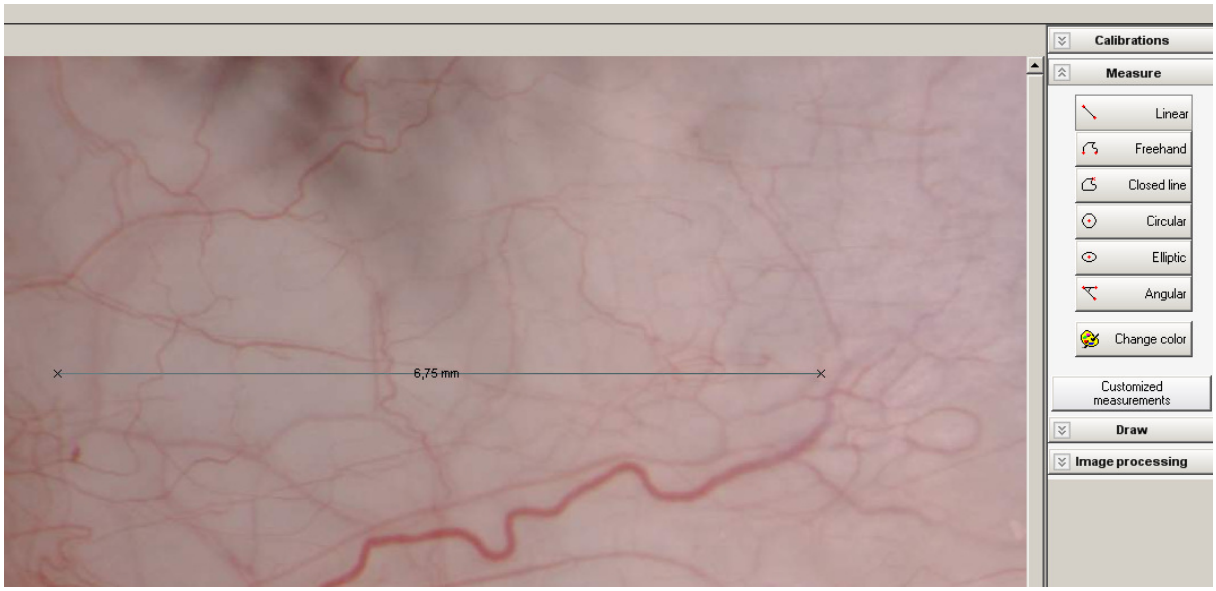
Click on *Save* to save the calibration under a name.

If necessary, repeat this procedure for other magnifications.

Double-click on the desired calibration from the selection list or highlight the calibration, followed by clicking *Link calibration*. After selecting a calibration, you can measure images in the measuring mode.

4.8.3 Measuring images

Open the relevant image in the image viewer by clicking and change to the measuring mode by clicking the *Measure* button. You can only go into the measuring mode if you have previously determined a calibration.
The following measuring tools are available:



Example: Measuring a distance

a) Select the measuring tool *Linear*.

b) Select a starting point within the image with a mouse click.

c) Drag the mouse cursor to the end point and terminate the measurement with a mouse click.

d) Depending on the selected calibration, the measured distance will be displayed.

4.8.4 Drawing

Open the relevant image in the image viewer by clicking and change to the drawing mode by clicking the *Draw* button.

The drawing tool bar contains all standard drawing objects such as lines, arrows, circles…

You can also insert a text in the image.

To do so, click and type in the desired text. Then, position the text with the mouse in the desired image section.

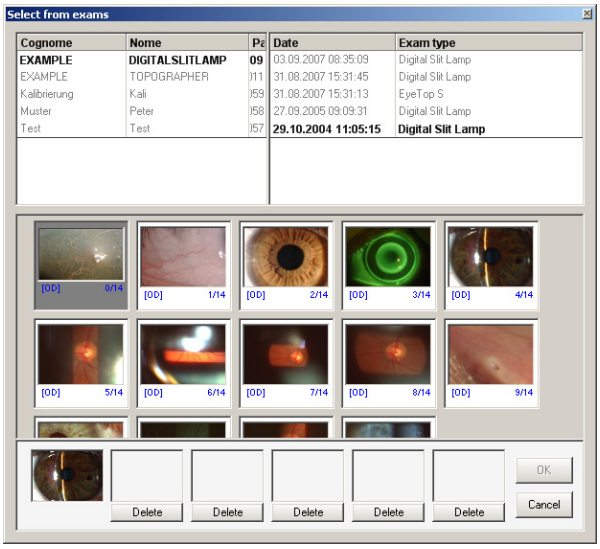
The text format can be defined by clicking .

4.8.5 Editing an image

Open the relevant image in the image viewer by clicking and change to the image editing mode by clicking the *Image editing* button.

The menu contains numerous tools to change colour, contrast, focus, and other image features.

4.8.6 Comparing images



In the graphics module, you can compare various images of different examinations by selecting *Comparison* → *Image Comparison*.

You can select relevant images with a double-click. After clicking *OK*, the images selected for comparison will be displayed enlarged.

5 Installation of the DigiPro3 software

The software comprises the DigiPro3 application for images taken with a topographer and the EyeImage² application for images taken with the DigiPro3 digital slit lamp. The relevant application can only be used to its full extent if the corresponding hardware has been correctly installed and the software has been unlocked.

Installation requirements:

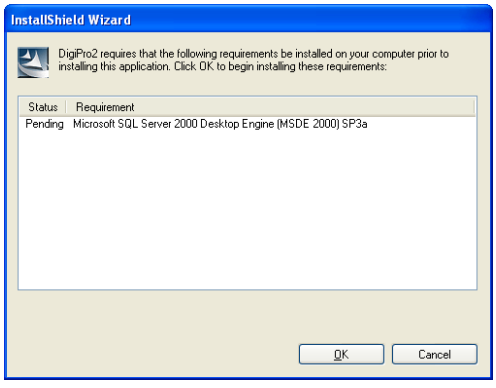
- Operating system Microsoft®NT, Microsoft®2000 or Microsoft®XP
- Graphics card with a resolution of at least 1280 x 1024 pixels and 128 MB hard disk memory
- IEEE1394A FireWire Port OHCI 1.1 compatible
- Pentium 4 processor
- from 2 GHz (kmc) clock pulse frequency
- At least 1 GB RAM

5.1 Installation instructions (EyeImage²)

Insert the installation CD in your CD ROM drive to start the installation. If the Setup Assistant does not start automatically, please click on the **setup.exe** command of the installation CD. Follow the instructions step by step:

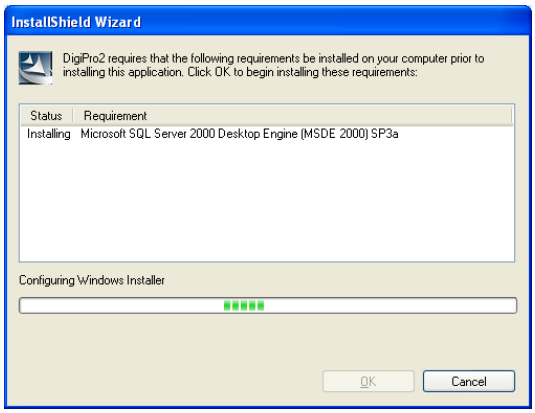
Wählen Sie eine Setup-Sprache aus
Wählen Sie die Sprache dieser Installation aus der unten aufgeführten Auswahl aus.
Englisch (USA)
OK
Abbrechen

Select the language and confirm by clicking *OK*.

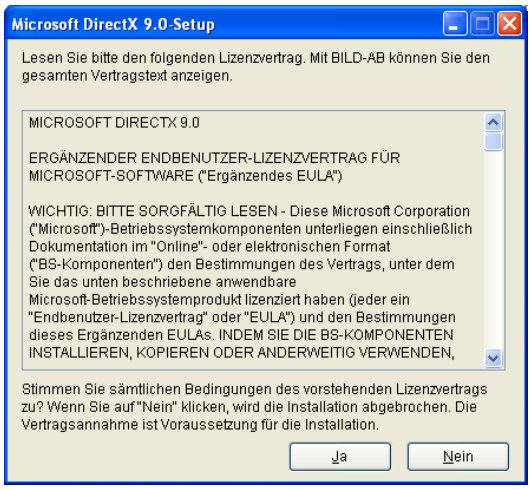

InstallShield Wizard
DigiPro2 requires that the following requirements be installed on your computer prior to installing this application. Click OK to begin installing these requirements:
Status
Requirement
Pending
Microsoft SQL Server 2000 Desktop Engine (MSDE 2000) SP3a
OK
Cancel

Confirm the installation of the SQL server by clicking *OK*.

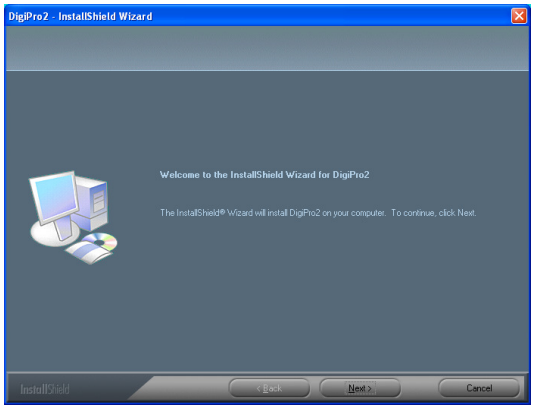
Confirm with *Yes.*


InstallShield Wizard
DigiPro2 requires that the following requirements be installed on your computer prior to installing this application. Click OK to begin installing these requirements:
Status
Requirement
Installing
Microsoft SQL Server 2000 Desktop Engine (MSDE 2000) SP3a
Configuring Windows Installer
OK
Cancel

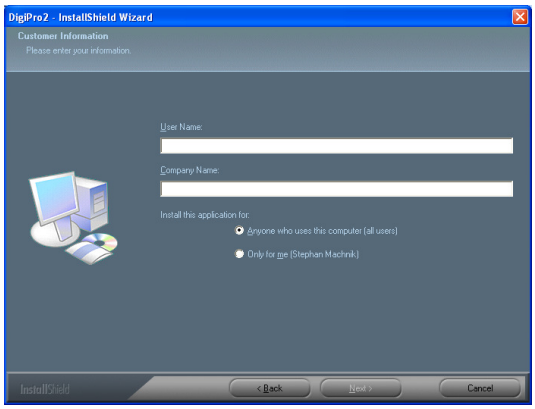
Wait until the installation of the SQL server has finished. This can take a couple of minutes.


Microsoft DirectX 9.0-Setup
Lesen Sie bitte den folgenden Lizenzvertrag. Mit BILD-AB können Sie den gesamten Vertragstext anzeigen.
MICROSOFT DIRECTX 9.0
ERGÄNZENDER ENDBENUTZER-LIZENZVERTRAG FÜR MICROSOFT-SOFTWARE ("Ergänzendes EULA")
WICHTIG: BITTE SORGFÄLTIG LESEN - Diese Microsoft Corporation ("Microsoft")-Betriebssystemkomponenten unterliegen einschließlich Dokumentation im "Online"- oder elektronischen Format ("BS-Komponenten") den Bestimmungen des Vertrags, unter dem Sie das unten beschriebene anwendbare Microsoft-Betriebssystemprodukt lizenziert haben (jeder ein "Endbenutzer-Lizenzvertrag" oder "EULA") und den Bestimmungen dieses Ergänzenden EULAs. INDEM SIE DIE BS-KOMPONENTEN INSTALLIEREN, KOPIEREN ODER ANDERWEITIG VERWENDEN,
Stimmen Sie sämtlichen Bedingungen des vorstehenden Lizenzvertrags zu? Wenn Sie auf "Nein" klicken, wird die Installation abgebrochen. Die Vertragsannahme ist Voraussetzung für die Installation.
Ja
Nein

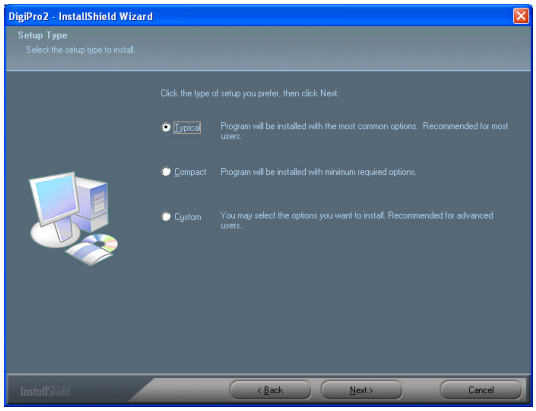
Accept the license agreement so Microsoft Directx 9.0 can be installed.


DigiPro2 - InstallShield Wizard
Welcome to the InstallShield Wizard for DigiPro2
The InstallShield® Wizard will install DigiPro2 on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

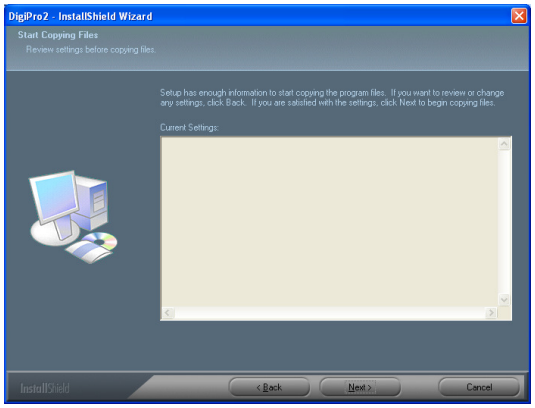
Click on *Continue* to start installing DigiPro3 EyeImage².



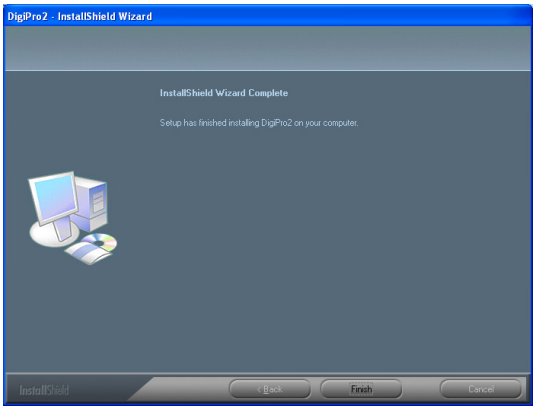
Type in the desired user information, and click on *Continue*.


DigiPro2 - InstallShield Wizard
Setup Type
Select the setup type to install.
Click the type of setup you prefer, then click Next.
Typical
Program will be installed with the most common options. Recommended for most users.
Compact
Program will be installed with minimum required options.
Custom
You may select the options you want to install. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

Select the setup type (standard is recommended).


DigiPro2 - InstallShield Wizard
Start Copying Files
Review settings before copying files.
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
InstallShield
< Back
Next >
Cancel

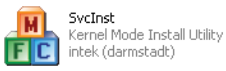
Continue

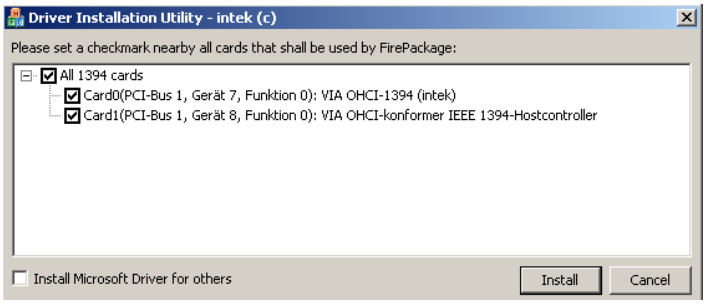


Wait until the software has been completely installed, then click *Finish*.

5.2 Installation of the camera driver

Call up the **SvcInst.exe** file in C:\Programms\bon Optic\DigiPro3




Driver Installation Utility - intek (c)
Please set a checkmark nearby all cards that shall be used by FirePackage:
All 1394 cards
Card0(PCI-Bus 1, Gerät 7, Funktion 0): VIA OHCI-1394 (intek)
Card1(PCI-Bus 1, Gerät 8, Funktion 0): VIA OHCI-konformer IEEE 1394-Hostcontroller
Install Microsoft Driver for others
Install
Cancel

The system has two cards.
You only need the driver for the card used by DigiPro3.

The other cards can be deactivated.
Then, activate
Install Microsoft Driver for others.

Click *Install* to start the installation of the necessary drivers.

Hardwareinstallation
Die Software, die für diese Hardware installiert wird:
VIA OHCI-1394 (intek)
hat den Windows-Logo-Test nicht bestanden, der die Kompatibilität mit Windows XP überprüft. (Warum ist dieser Test wichtig?)
Das Fortsetzen der Installation dieser Software kann die korrekte Funktion des Systems direkt oder in Zukunft beeinträchtigen. Microsoft empfiehlt strengstens, die Installation jetzt abzubrechen und sich mit dem Hardwarehersteller für Software, die den Windows-Logo-Test bestanden hat, in Verbindung zu setzen.
Installation fortsetzen
Installation abbrechen

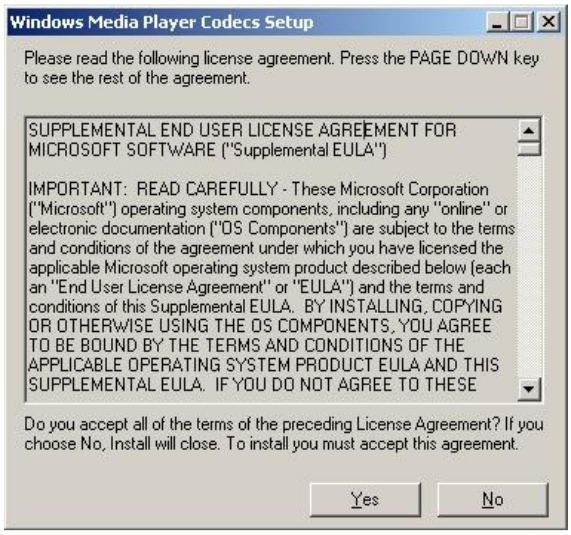
During the signature query click on *Continue installation*.

5.3 Installation of video driver

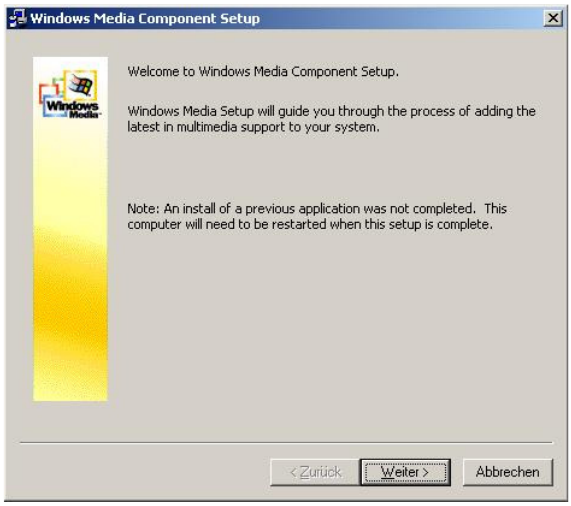
Open the file called ***WMpcdcs8*** from the CODEC directory on the provided CD.

Windows Media Player Codecs Setup
Welcome! This setup will install the Windows Media Player Codecs. It is recommended you exit all other applications before continuing with this install.
Do you want to continue?
Ja
Nein

Click Yes to start the setup.


Windows Media Player Codecs Setup
Please read the following license agreement. Press the PAGE DOWN key to see the rest of the agreement.
SUPPLEMENTAL END USER LICENSE AGREEMENT FOR MICROSOFT SOFTWARE ("Supplemental EULA")
IMPORTANT: READ CAREFULLY - These Microsoft Corporation ("Microsoft") operating system components, including any "online" or electronic documentation ("OS Components") are subject to the terms and conditions of the agreement under which you have licensed the applicable Microsoft operating system product described below (each an "End User License Agreement" or "EULA") and the terms and conditions of this Supplemental EULA. BY INSTALLING, COPYING OR OTHERWISE USING THE OS COMPONENTS, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE APPLICABLE OPERATING SYSTEM PRODUCT EULA AND THIS SUPPLEMENTAL EULA. IF YOU DO NOT AGREE TO THESE
Do you accept all of the terms of the preceding License Agreement? If you choose No, Install will close. To install you must accept this agreement.
Yes
No

Click Yes to accept the license agreement.

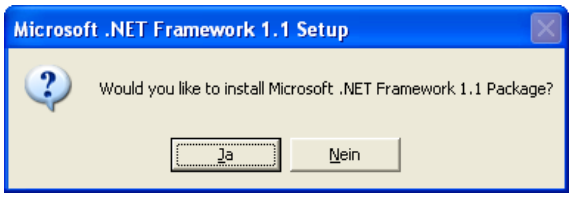

Windows Media Component Setup
Welcome to Windows Media Component Setup.
Windows Media Setup will guide you through the process of adding the latest in multimedia support to your system.
Note: An install of a previous application was not completed. This computer will need to be restarted when this setup is complete.
< Zurück
Weiter >
Abbrechen

Click on *Weiter* (Continue) and follow the instructions. After the installation is complete, Windows must be restarted.

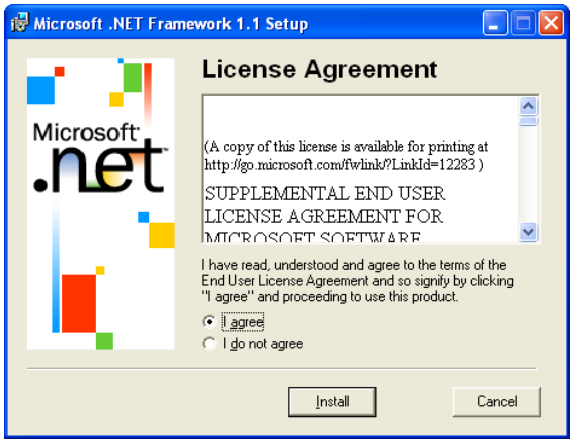
5.4 Installation of DOT NET (Microsoft.NET Framework 1.1)

→ Normally, it is already installed! (also see section 5.1)

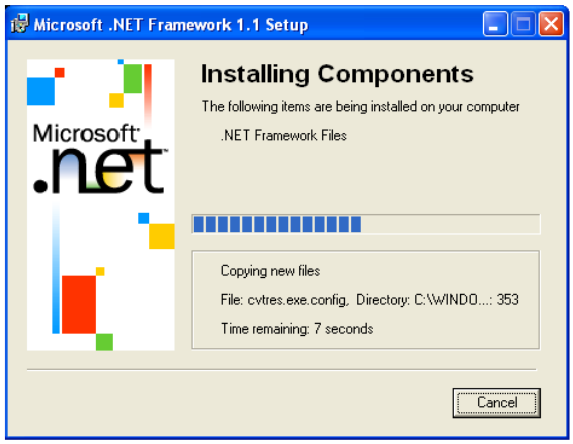
Open the file called ***1033dotnetfx.exe*** on the CD.



Confirm by clicking *Yes* to start the installation.


Microsoft .NET Framework 1.1 Setup
License Agreement
(A copy of this license is available for printing at http://go.microsoft.com/fwlink/?LinkId=12283)
SUPPLEMENTAL END USER LICENSE AGREEMENT FOR
I have read, understood and agree to the terms of the End User License Agreement and so signify by clicking "I agree" and proceeding to use this product.
I agree
I do not agree
Install
Cancel

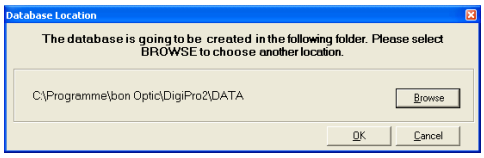
Accept the license agreement and click on *Install*.


Microsoft .NET Framework 1.1 Setup
Installing Components
The following items are being installed on your computer
.NET Framework Files
Copying new files
File: cvtres.exe.config, Directory: C:\WINDO...: 353
Time remaining: 7 seconds
Cancel

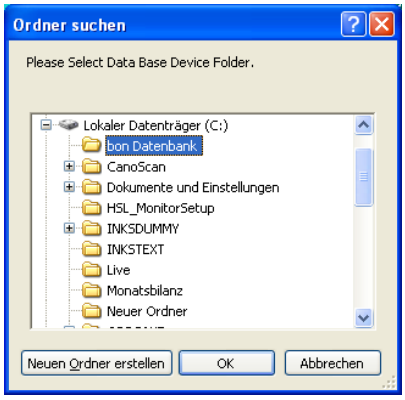
Wait until the installation is complete.

5.5 Starting the programme for the first time

Start the application by clicking:
Start → All programs → bon Optic → DigiPro3 → DigiPro3


Database Location
The database is going to be created in the following folder. Please select BROWSE to choose another location.
C:\Programme\bon Optic\DigiPro2\DATA
Browse
OK
Cancel

The programme will then prompt you to enter a path for the database files.
Click *Browse* and…



…create a new database folder, for example with the name "bon Datenbank" and confirm with *OK*. Make sure that the selected partition has a sufficient storage capacity.
In this folder, the database files DIGITAL.MDF and DIGITAL.LDF will be created.

After this, EyeImage² started…

Start logo: There is the option of using your own start logo. For this purpose, save the desired logo as a Bitmap (bmp) image in the directory called C:\Programs\bon Optic\DigiPro3 and give it the file name "splash". (Standard logo 510x320 pixels)

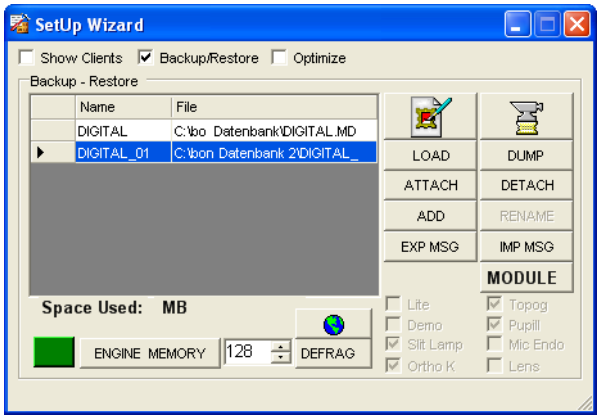
5.6 Setup Wizard

5.6.1 Backup/Restore

Start the programme by clicking:
Start → All programmes → bon Optic → DigiPro3 → DbSetup

In the Setup Wizard select the item *Backup/Restore*.

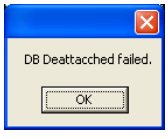
The SQL Server Edition for this software handles databases with a size of max. 2 GB. When the current database has reached its storage space, another database will automatically be created. *Space used* shows the size of the marked database.



With this button ADD, you can manually create a new database. The system will then prompt you to specify an existing folder or to create a new folder where the new database should be stored. After the installation (which may take a couple of minutes), the new database will be displayed in the Setup Wizard.

With this button ATTACH, you can integrate an existing database. You will be prompted to open the database in the .MDF format. After completion, you will receive the following message:

By clicking this button DETACH, you can detach an existing database. But do not forget to mark the relevant database before! After completion, you will receive the following message:



Clicking this button will update the window, which displays the databases.

Other functions:

Clicking this button will convert all existing images in the database into the *JPG* format to create more storage space.

Clicking this button will defragment the database. This function optimises the database in order to free up storage space.

The DUMP function converts all patients in the database to single compressed zip files. The system will then prompt you to specify an existing folder or to create a new folder where the files should be stored.

Do not open these zip files with a conventional zip programme. These files are written with a special XML protocol.

With this button LOAD, you can import one or several patients (zip files) into the database.

Miscellaneous:

With this button IMP MSG, you can import *Messages.zip* files that are provided by the manufacturer into the software. These files contain minor software improvements like, for example, new buttons, functions etc.

MODULE → This function is reserved for the manufacturer!

5.6.2 Optimize

DO NOT USE!
This menu is reserved for the technical support from the manufacturer!

5.7 De- and reinstalling the DigiPro3 software

5.7.1 Deinstallation

Start the uninstall routine under Start → All programmes → bon Optic → DigiPro3 → Uninstall DigiPro3 and follow the instructions given.

Then, remove the SQL server under Start → Settings → Control panel → Software and follow the instructions given.

Delete the directory called C:\bon Datenbank which contains the database files .MDF and .LDF.

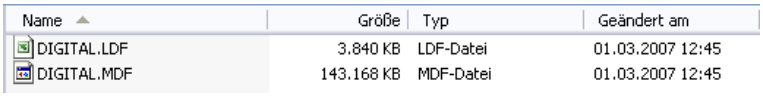
5.7.2 Reinstallation/update

General database backup (recommended):

1. Open the SQL server…

…and switch it off (stop).

2. Save your databases DIGITAL.LDF and DIGITAL.MDF (standard source: C:\bon Datenbank) on a storage medium, for example on a CD-R.

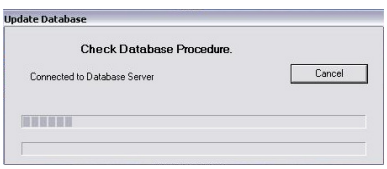


3. Then, restart the SQL server (Start/Continue).

4. Start the uninstall routine by clicking Start → All programmes → bon Optic → DigiPro3 → Uninstall DigiPro3 and follow the instructions given. Then, check in the Explorer whether the file folder C:\Programme\Bon Optic**DigiPro3** has really been removed.

5. Delete the database files .MDF and .LDF in the directory C:\ bon Datenbank only in case of a complete reinstallation, i.e. if these databases are no longer required.

6. Perform the installation routine with the new DigiPro3 software (also see section 5.1).
   If you continue to use databases of older versions an automatic update of the existing databases will be performed when the programme is started for the first time.



5.8 Network installation (DigiPro3)

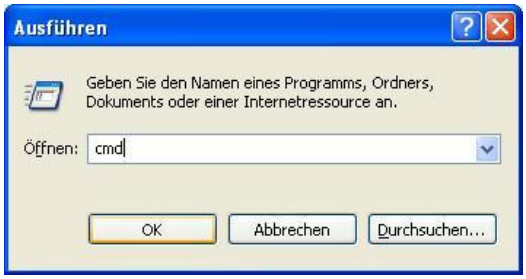
The DigiPro3 software enables you to use a shared database for several topographers or digital slit lamps within a network.

5.8.1 Requirements for a network installation

You require a functional Microsoft TCP/IP network and must know the computer names of the individual computers (clients).

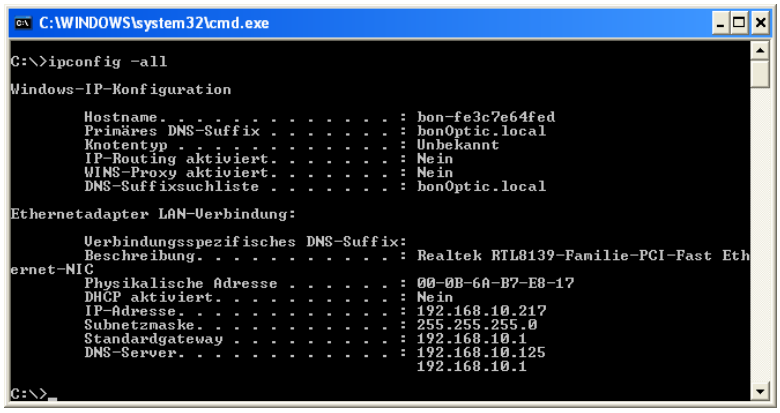
To find the computer names of the clients, proceed as follows:

Click the ***Start*** button on the task bar and then open the ***Perform*** application. The following window will pop up:



Enter the command **cmd** and confirm by clicking **OK**.

Another window will pop up where you should enter the command ***ipconfig –all***, followed by pressing the Enter key.


C:\WINDOWS\system32\cmd.exe
C:\>ipconfig -all
Windows-IP-Konfiguration
Hostname . . . . . : bon-fe3c7e64fed
Primäres DNS-Suffix . . . . . : bonOptic.local
Knotentyp . . . . . : Unbekannt
IP-Routing aktiviert. . . . . : Nein
WINS-Proxy aktiviert. . . . . : Nein
DNS-Suffixsuchliste . . . . . : bonOptic.local
Ethernetadapter LAN-Verbindung:
Verbindungsspezifisches DNS-Suffix:
Beschreibung. . . . . : Realtek RTL8139-Familie-PCI-Fast Ethernet-NIC
Physikalische Adresse . . . . . : 00-0B-6A-B7-E8-17
DHCP aktiviert. . . . . : Nein
IP-Adresse. . . . . : 192.168.10.217
Subnetzmaske. . . . . : 255.255.255.0
Standardgateway . . . . . : 192.168.10.1
DNS-Server. . . . . : 192.168.10.125
192.168.10.1
C:\>

Under host name you will find the correct computer name of the relevant computer.
In this example:
bon-fe3c7e64fed

Like this find out all computer names linked to the network and equipped with a digital slit lamp.

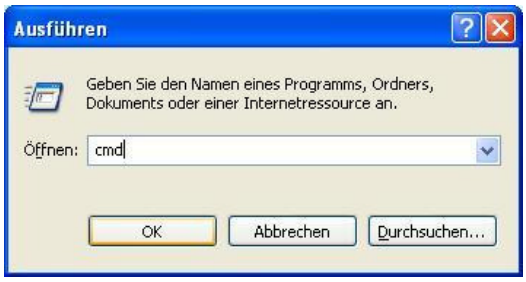
Alternatively, you may also find the computer names via the system properties:

(right mouse click → Properties)

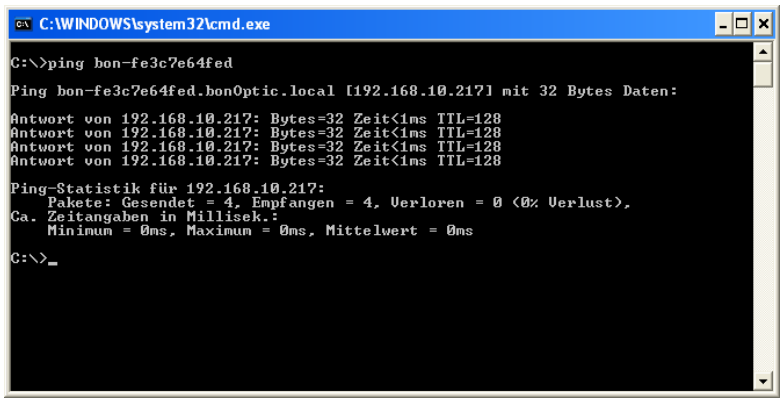
In addition, you will need the name of the computer (subsequently it will be called Server) where the SQL database should be installed.

Now check the clients if the Microsoft TCP/IP network works properly.

Click the ***Start*** button on the task bar and then open the ***Perform*** application. The following window will pop up:



Enter the command ***cmd*** and confirm by clicking **OK**.



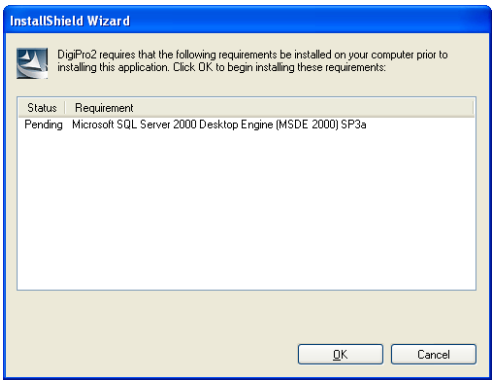
Enter the command ***ping [computer name of your server]*** and confirm by pressing the Enter key.
In this example:
ping bon-fe3c7e64fed

The ping statistics must not show any losses; if it does, the network is faulty. Contact your network administrator, if necessary.

5.8.2 Software installation on the server

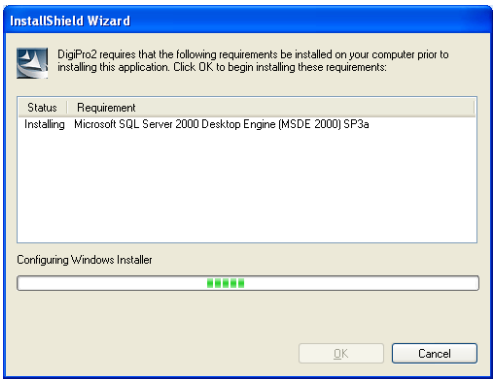
Insert the installation CD in your CD ROM drive to start the installation. If the Setup Assistant does not start automatically, please click on the **setup.exe** file on the installation CD. Follow the instructions step by step:

Select the language and confirm by clicking *OK*.


InstallShield Wizard
DigiPro2 requires that the following requirements be installed on your computer prior to installing this application. Click OK to begin installing these requirements:
Status
Requirement
Pending
Microsoft SQL Server 2000 Desktop Engine (MSDE 2000) SP3a
OK
Cancel

Confirm the installation of the SQL server by clicking *OK*.

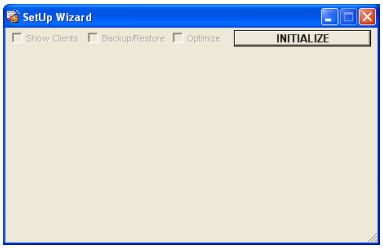
Confirm with *Yes.*


InstallShield Wizard
DigiPro2 requires that the following requirements be installed on your computer prior to installing this application. Click OK to begin installing these requirements:
Status
Requirement
Installing
Microsoft SQL Server 2000 Desktop Engine (MSDE 2000) SP3a
Configuring Windows Installer
OK
Cancel

Wait until the installation of the SQL server has finished. This can take a couple of minutes.

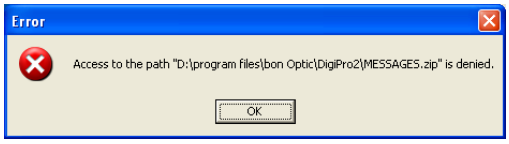
Interrupt the installation process for Microsoft DirectX and the subsequent DigiPro3 software, these are not needed on the server!

Start the database manager ***SetUp Wizard*** from the CD. You will find the executable ***DbSetup.exe*** file under the following path: ***program files\bon Optic\DigiPro3***



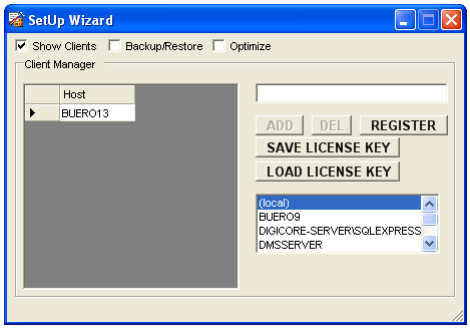
Click the **INITIALIZE** button and, for compatibility reasons, create a new database file called “bon Datenbank“.

Make sure that the selected partition has a sufficient storage capacity. In this folder, the database files DIGITAL.MDF and DIGITAL.LDF will be created.



If the following error message pops up, you can ignore it by clicking ***OK***.

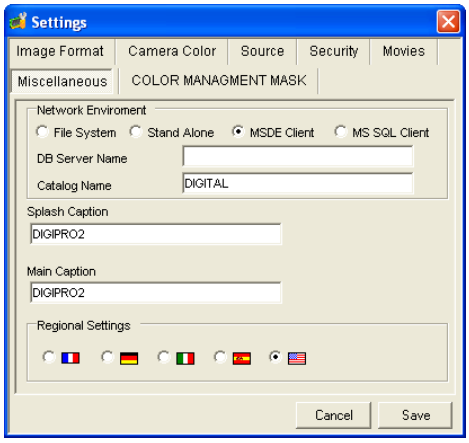
Again, start the database manager ***Setup Wizard*** from the CD.



Now add all computer names of the clients to the host list.
For every new client, click the *ADD* button. To delete a client, click the *DEL* button.

Then, close the database manager. The installation of the server is complete.

You may now start to install the DigiPro3 software on the relevant clients. To do so, follow the steps described in **chapter 5.1 ff**.
You may later on deinstall the Microsoft SQL server from the clients, as it is not needed any more. But it is not mandatory to remove it.



After the installation process has been successfully completed, make the following changes on each client:
Click *Settings* and select the *Miscellaneous* tab.

Select the option *MSDE CLIENT* from the network environment and enter the
computer name of your server under *Host*.

Save the settings and restart the application.

6 Mounting the DigiPro3 camera

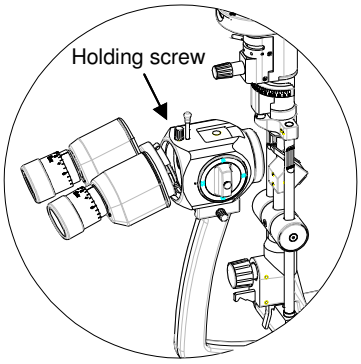


Fig. 1: Removing the binocular tube

1. Install the slit lamp in accordance with the instructions in the relevant user manual.

2. As shown in figures 1 to 3, insert the DigiPro3 with integrated beam splitter into the slit lamp.

3. Connect the 12-pole *Hirose* Connection to the digital camera and the 4-pole connection of the base to the supplied cable.

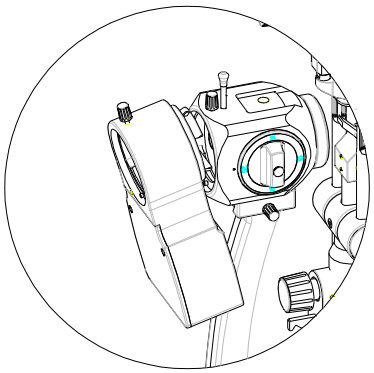


Fig. 2: Inserting the beam splitter

4. Connect the digital camera and your computer by means of the supplied *FireWire* cable.
Before doing so, switch off the computer!

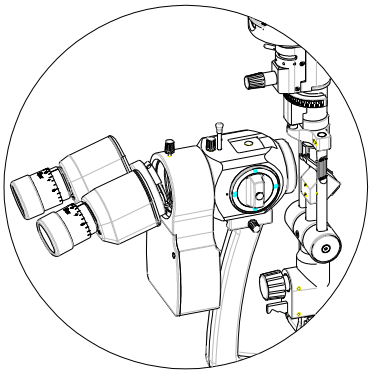


Fig. 3: Attaching the binocular tube again

If you use a notebook, a FireWire-Repeater must be installed to obtain the supply voltage required.

5. Glue the black foil for the left/right eye recognition in the centre in front of the sliding plate onto the tabletop.

If the background is black or very dark a white foil must be used.

7 Technical data

Resolution	*up to 1392 x 1040 pixels.*
Pixel size	*4.65 µm x 4.65 µm*
Resolution depth	*8 Bit*
Digital interface	*IEEE 1394a, DCAM V1.30*
Transmission rate	*400 Mb/s*
Frame rate	*11 fps*
Data compression	*bmp, jpg, png, tiff, gif*
Video format	*800 x 600, 640 x 480, 320 x 240 pixels ; max. video recording time: 170 s*
Gain Control	*Manual: 0-20 dB; Auto Gain*

Recommeded hardware and software requirements

Processor	*Pentium IV, 2 GHz*
RAM	*512 MB*
Video board	*ATI Radeon 9200 (128 MB) or equivalent*
Interface	*Standard IEEE1394a FireWire Port OHCI 1.1 compatible, Auxiliary Power Connector ** *
Color monitor	*LCD or CRT, resolution: 1280 x 1024*** @75 Hz*
Operating system	*Microsoft Windows NT (with Service Pack 6), Windows 2000 (with Service Pack 4) or XP. Microsoft Internet Explorer 6 is required.*

EU - KONFORMITÄTSERKLÄRUNG
EC – DECLARATION OF CONFORMITY

Hersteller-Adresse: (Manufacturer adress)	bon Optic Vertriebsgesellschaft mbH Stellmacherstraße 14 D-23556 Lübeck
Gerätetyp / UMDNS-CODE: (Device typ/ UMDNS-CODE)	Slit lamp (12-281) camera, ophthalmologic (16-419) image file archiving and transmission system (17-960)
Gerätebezeichnung: (Device name)	**DigiPro3 with Software *EyeImage²***
Klassifizierung: (Classification)	**1** (Richtlinie 93/42/EWG, Anhang IX, Regel 1) **1** (MDD 93/42/EEC, annex IX, rule 1)

Wir erklären hiermit die Übereinstimmung des vorgenannten Produkts mit der EU-Richtlinie 93/42/EWG über Medizinprodukte.

We declare the compliance of the device with the requirements of the Derective 93/42/EEC about medical devices.

Angewandete Normen: (Applicable standards)	DIN EN 60601-1 DIN EN 60601-1-1 DIN EN 60601-1-2 ISO 10939 ISO 15004	(05/2010) (12/2007) (1998) (1997)
Überwachungsbehörde/ ID-Nr.: (Notified body/ Identification number)	**IMQ / 0051**	

Das Gerät ist gekennzeichnet mit / The device is marked with CE

Lübeck, June 3rd, 2010

(H. Jochen Kaber, managing director)